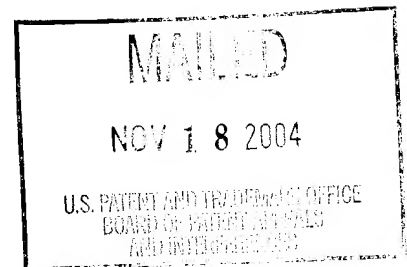


The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte PATRICK L. COLEMAN,
KURT J. HALVERSON,
JAMES I. HEMBRE,
SANJAY L. PATIL,
ANILA PRABHU,
RAJ RAJAGOPAL,
JERALD K. RASMUSSEN, and
BARBARA C. SWENSON



Appeal No. 2004-1934
Application No. 09/819,317

ON BRIEF

Before WINTERS, WILLIAM F. SMITH, and MILLS, Administrative Patent Judges.

WILLIAM F. SMITH, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 from the examiner's rejection of claims 1, 3-11, 23, and 26.

Claim 1 is representative of the subject matter on appeal and reads as follows:

1. A method of transferring molecules positioned within a matrix to a laminate comprising:

(a) providing a laminate comprising

i) a shrinkable polymeric substrate having a projected surface area and a topographical surface area, and

ii) a hydrogel disposed on at least a portion of the substrate, the hydrogel comprising linking agents;

(b) contacting the matrix with the laminate;

(c) transferring molecules from the matrix to the laminate;

(d) removing the matrix from the laminate; and

(e) shrinking the laminate so that the topographical surface area is greater than the projected surface area.

The references relied upon by the examiner are:

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|---|-------------|---------------|
| Kreisher | 4,589,965 | May 20, 1986 |
| Halverson et al. (Halverson) (PCT Application) | WO 99/53319 | Oct. 21, 1999 |

Claims 1, 3-11, 23, and 26 stand rejected under 35 U.S.C. § 103(a). The examiner relies upon Halverson and Kreisher as evidence of obviousness. We affirm.

Discussion

We initially note that appellants state that for the purposes of this appeal the claims stand or fall together. Appeal Brief, page 4. Accordingly, we will confine our consideration of the issues of this appeal as they apply to claim 1, the only independent claim pending. See the then-existing provisions of 37 CFR § 1.192(c)(7).

Claim 1 is directed to a method of transferring molecules positioned within a matrix to a laminate. To this end, a laminate comprising a shrinkable polymeric substrate having a projected surface and a topographical surface area and a hydrogel disposed on at least a portion of the substrate is provided. The hydrogel further

comprises linking agents. The matrix is contacted with the laminate with the molecules being transferred from the matrix to the laminate. The matrix is removed from the laminate and the laminate is shrunk so that the topographical surface area is greater than the projected surface area.

There is no real dispute as to what the references teach. Rather, the issue involved in this appeal is what conclusions should be reached on the basis of these facts. The examiner has found without dispute from appellants that Halverson teaches a method of transferring molecules to a laminate. The laminate described by Halverson is that required by claim 1 on appeal. Furthermore, after the molecules are transferred to the laminate of Halverson, the laminate is shrunk in the manner required by claim 1 on appeal. See the fact-finding set forth on pages 4-5 of the Examiner's Answer in regard to Halverson.

The examiner has identified, without dispute by appellants, that the difference between the method described in Halverson and that required by claim 1 on appeal is that Halverson does not explicitly teach that the molecules can be transferred to a laminate from a matrix. The examiner relies upon Kreisher in this regard.

The examiner has found, again without dispute from appellants, that Kreisher describes electroblot transfer of molecules from a matrix to an immobilizing material. See the fact-finding set forth on pages 5-6 of the Examiner's Answer. On these facts, the examiner concludes:

It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to transfer the molecules onto the laminates of Halverson using the electroblot method of Kreisher since Halverson expressly states "Affix' shall include any mode of attaching reactants to a substrate. Such modes shall include, without limitation,

covalent and ionic binding, adherence, such as with an adhesive, and physical entrapment within a substrate (page 6, lines 12-14)". An ordinary practitioner, faced with the express suggestion of Halverson to 'affix' the molecules by any desirable method, would have been motivated to select the method of Kreisher since Kreisher states "Therefore it is a principal advantage of the present invention to provide a rapid and efficient method for electroblotting (see column 2, lines 19-21)." Kreisher continues a sentence later to note 'It is an additional object of the present invention to provide a method as aforesaid which obtains high resolution and absence of diffusion (see column 2, lines 25-27).' An ordinary practitioner would have been motivated to follow the express suggestion of Halverson to affix the molecules using multiple modes and to utilize the mode of Kreisher since Kreisher indicates that the electroblotting method is fast, it is efficient and it has high resolution, all characteristics desirable to Halverson, in particular the high resolution.

Examiner's Answer, page 6.

Appellants disagree with the examiner's conclusions, arguing:

One of skill in the art might arguably have a reasonable expectation of success in using a porous material (e.g., a membrane or paper) as an immobilizing material in the electroblotting method of Kreisher et al. However, Halverson et al. not only fail to specifically disclose an array substrate that is a porous material, they in fact teach away from an array substrate that is a porous material by suggesting that the array includes a substrate that provides a preferably non-porous surface (e.g., page 8, lines 34-35).

Appeal Brief, page 6. Appellants also argue:

... Halverson et al. disclose high-density miniaturized arrays, but they fail to specifically suggest the desirability of transferring molecules positioned within a matrix to their substrate.

Further, as discussed herein above, Kreisher et al. disclose a method of electroblotting molecules from a gel to a blot membrane, but they fail to suggest the desirability of using substrates, as disclosed by Halverson et al., as immobilizing materials suitable for use in electroblotting.

Thus, the art of record fails to suggest the desirability of the combination of Halverson et al. and Kreisher et al.

Appeal Brief, page 7.

We find no error in the examiner's conclusion that the subject matter of claim 1 as a whole would have been obvious to a person of ordinary skill in the art based upon the disclosures of Halverson and Kreisher. Appellants read Kreisher in too narrow a manner as describing only porous materials are suitable as immobilizing materials. Appeal Brief, page 6. This is incorrect. As recognized by appellants, Appeal Brief, pages 5-6, Kreisher states:

The electrophoretically resolved material in the gelatin sheet is placed in contacting relationship with an immobilizing material. Any suitable immobilizing material can be used, such as membranes, papers, nylon, nitrocellulose, diazobenzyloxymethyl (DBM) paper, diazophenylthioether (DPT) paper, and the like.

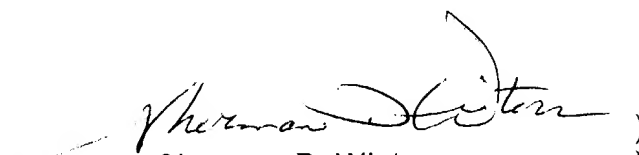
Id. At best, this portion of Kreisher indicates that the use of a porous immobilizing material is a preference, not a requirement. Clearly, Kreisher is not limited to the use porous immobilizing materials. Thus, a person of ordinary skill in the art reading Kreisher and Halverson together would have understood that the laminate described by Halverson would be a suitable immobilizing material in an electroblot process such as that described by Kreisher.

In this regard we note that appellants have not set forth any technical reason why a laminate as described in Halverson would not be useful in an electroblot process as described by Kreisher. The fact that the use of such a laminate may be considered a non-preferred embodiment of Kreisher does not mean that the combination of references as proposed by the examiner is improper.

The decision of the examiner is affirmed.

No time period for taking any subsequent action in connection with this appeal
may be extended under 37 CFR § 1.136(a).

AFFIRMED



Sherman D. Winters
Administrative Patent Judge



William F. Smith
Administrative Patent Judge



Demetra J. Mills
Administrative Patent Judge

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